

IN THE CLAIMS:

Please amend Claims 10 and 14, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1. (previously presented) A wireless communication system comprising first and second wireless communication devices, wherein

said first wireless communication device comprises:

an interface unit adapted to receive a selection of a data processing function specified by an operator;

a first detection unit adapted to detect a plurality of beacons at a plurality of frequencies;

a first connection unit adapted to connect to a network configured by a base station that transmitted a beacon detected by said first detection unit, in accordance with network identification information included in the beacon detected by said first detection unit to search for a wireless communication device capable of performing the data processing function selected by the operator via the interface unit;

a first transmission unit adapted to transmit a search request signal, to search for the wireless communication device capable of performing the data processing function selected by the operator, to a wireless device connected to the network connected to by said first connection unit

a second detection unit adapted to detect, among wireless communication devices connected to the network connected to by said first connection unit, a wireless communication device capable of performing the data processing function selected by the operator, based on a

response signal that the wireless communication device connected to the network connected to by first said connection unit has transmitted in response to the search request signal transmitted by said first transmission unit;

a display unit adapted to selectively display information associated with the wireless communication device detected by said second detection unit so as to determine a wireless communication partner; and

a control unit adapted to, when the operator selects the information displayed by said display unit, while said first detection unit performs a detection process to detect the beacon, terminate the detection process of said first detection unit and execute connection processing with a wireless communication device selected by the selected information, and

said second wireless communication device comprises:

a second connection unit adapted to connect to a network configured by a base station at a plurality of frequencies;

a second transmission unit adapted to transmit a signal including self identification information as the response signal, when search request information is detected while the second wireless communication device is in a wireless reception waiting state on the network connected by said second connection unit.

2. (previously presented) A wireless communication device comprising:

an interface unit adapted to receive a selection of a data processing function specified by an operator;

a first detection unit adapted to detect a plurality of beacons at a plurality of frequencies;

a connection unit adapted to connect to a network configured by a base station that transmitted a beacon detected by said detection unit, in accordance with network identification information included in a beacon detected by said first detection unit to search for a wireless communication device capable of performing the data processing function selected by the operator via the interface unit;

a transmission unit adapted to transmit a search request signal, to search for the wireless communication device capable of performing the data processing function selected by the operator, to a wireless communication device connected to the network connected to by said connection unit;

a second detection unit adapted to detect, among wireless communication devices connected to the network connected to by said connection unit, a wireless communication device capable of performing the data processing function, based on a response signal that the wireless communication device on the network connected to by said connection unit has transmitted in response to the search request signal transmitted by said transmission unit;

a display unit adapted to selectively display information associated with the wireless communication unit detected by said second detection unit so as to enable identification of a wireless communication partner; and

a control unit adapted to, when the operator selects the information displayed by said display unit, while said first detection unit is performing a detection process to detect the beacon, terminate the detection process of said first detection unit, and execute connection processing with a wireless communication device specified by the selected information.

3. (previously presented) The device according to claim 2, wherein

said second detection unit stores, in a memory, identification information of a wireless communication device on a partner side included in a response signal to the search request signal upon reception of the response signal, and

    said display unit selectively displays the identification information stored in the memory.

4. (previously presented) The device according to claim 2, wherein each of the wireless communication device and the wireless communication partner is one of: an image sensing device, a device for executing a print process of a sensed image, and a storage device for executing a storage process of a sensed image.

5. (canceled)

6. (previously presented) The device according to claim 2, wherein, when no signal is received in response to the search request signal within a predetermined period of time, an error display is made.

7. (previously presented) The device according to claim 2, further comprising:  
    a determination unit adapted to determine if the beacon detected by said first detection unit is in an adhoc communication mode or in an infrastructure communication mode,  
and,

when said determination unit determines that the detected beacon is in the adhoc communication mode, said transmission unit transmits the search request signal toward a wireless communication processing device as a generation source of the detected beacon, and,

when said determination unit determines that the detected beacon is in the infrastructure mode, said transmission unit transmits the search request signal toward an access point.

8. (previously presented) The device according to claim 2, further comprising a registration unit adapted to register, in a memory, information associated with a connection to the partner wireless communication device, to which a wireless communication has been established.

9. (previously presented) The device according to claim 8, further including a mode for executing a process for establishing a wireless communication based on the information registered by said registration unit.

10. (currently amended) A wireless communication device that is configured to switch between a history search mode and a new search mode, and executes a communication process in each mode, wherein, in the history search mode, the wireless communication device communicates with a partner wireless communication device that had been communicated with previously, and wherein, in the new search mode, the wireless communication device communicates with a newly searched for partner wireless communication device, comprising:

a storage unit adapted to store device identification information and network identification information of a partner to which the wireless communication device has been connected previously;

an instruction unit that is operated by a user to select one of the history search mode and the new search mode;

a beacon detection unit that operates in the new search mode and that detects a plurality of beacons ~~beacon~~;

a search unit adapted to, in the new search mode, compare network identification information included in the detected beacon with the network identification information stored in said storage unit, cause said detection unit to detect another beacon, if there is a match in the compared network identification information,

wherein, in the new search mode, if a beacon including new network identification information is detected, the search unit searches a network configured by a base station that transmitted the beacon and search for a new partner wireless communication device connected to a network configured by a base station that transmitted the beacon, based on new network identification information, if the new network identification information is detected;

a first display unit adapted to, in the new search mode, selectively display device identification information of [[a]] the new partner wireless communication device found by said search unit;

a second display unit adapted to selectively display the device identification information of a wireless communication device stored in said storage unit, if the history search mode is selected by said instruction unit; and

a wireless communication establishment process unit adapted to, when device identification information displayed by one of said first and second display units is selected, execute a wireless communication establishment process with the wireless communication device specified by the selected device identification information.

11. (previously presented) A wireless communication system comprising first and second wireless communication devices, wherein

said first wireless communication device comprises:

an interface unit adapted to receive a selection of a processing function specified by an operator;

a discrimination unit adapted to discriminate a type of device capable of executing the processing function selected by the operator via the interface unit;

a determination unit adapted to, when receiving beacons transmitted from devices on wireless networks, determine whether device identification information corresponding to the type discriminated by said discrimination unit is included in the received beacons; and

a display unit adapted to, selectively display information associated with a device that transmitted a beacon including the device identification information corresponding to the type discriminated by said discrimination unit, and not to display information associated with a device that transmitted a beacon not including the device identification information corresponding to the type discriminated by said discrimination unit, and

said second wireless communication device comprises:

an informing unit adapted to include device identification information indicating a function into a beacon and transmitting the beacon to the wireless network, and

when information of said second wireless communication device among information displayed by said display unit is selected, a process for establishing a communication between said first and second wireless communication devices is executed.

12. (previously presented) A wireless communication device comprising:
  - an interface unit adapted to receive a selection of a processing function specified by an operator;
  - a discrimination unit adapted to discriminate a type of device capable of executing the processing function selected by the operator via the interface unit;
  - a determination unit adapted to, when receiving beacons transmitted from devices on wireless networks, determine whether device identification information corresponding to the type discriminated by said discrimination unit is included in the received beacons; and
  - a display unit adapted to selectively display information associated with a device that transmitted a beacon including the device identification information corresponding to the type discriminated by said discrimination unit, and not to display information associated with a device that transmitted a beacon not including the device identification information corresponding to the type discriminated by said discrimination unit.

13. (previously presented) A method performed by a wireless communication device, the method comprising:

receiving a selection of a data processing function specified by an operator;  
detecting a plurality of beacons at a plurality of frequencies;

connecting to a network configured by a base station that transmitted a detected beacon, in accordance with network identification information included in the detected beacon to search for a wireless communication device capable of performing the data processing function selected by the operator;

transmitting a search request signal, to search for the wireless communication device capable of performing the data processing function selected by the operator, to a wireless communication device connected to the network connected to;

detecting, among wireless communication devices connected to the network connected to, a wireless communication device capable of performing the data processing function, based on a response signal that the wireless communication device on the network connected to has transmitted in response to the search request signal transmitted;

selectably displaying information associated with the wireless communication device detected to be capable of performing the data processing function selected by the operator so as to enable identification of a wireless communication partner; and,

when the operator selects the information displayed while a detection process is being performed to detect the beacon, terminating the detection process and executing connection processing with a wireless communication device specified by the selected information.

14. (currently amended) A method performed by a wireless communication device, which has a memory for storing device information and network identification information of a partner wireless communication device that has been connected to previously, which is configured to switch between a history search mode and a new search mode, and which

executes a communication process in each mode, wherein, in the history search mode, the wireless communication device communicates with a partner wireless communication device corresponding to device information is stored in the memory, and wherein, in the new search mode, the wireless communication device communicates with a newly searched for partner wireless communication device, the method comprising:

determining an operator's instruction that instructs one of the history search mode and the new search mode;

executing, in the new search mode, a beacon detection process of detecting a plurality of beacons;[[.]])

comparing network identification information included in [[the]] a detected beacon with the network identification information stored in the memory;[[.,.]]

if there is a match in the compared network identification information, continuing [[a]] the detection process [[of]] to detect another beacon, if there is a match in the compared network identification information, and

if the detected beacon includes new network identification information, searching for a partner wireless communication device connected to a network configured by a base station which had that transmitted the beacon for a new partner wireless communication device, based on the new network identification information, if the new network identification information is detected;

in the new search mode, selectively displaying device identification information of [[a]] the new partner wireless communication device found on a display unit;

selectably displaying the device identification information of a wireless communication device stored in the memory on the display unit, if the operator is determined to have instructed the history search mode; and

executing, when device identification information that is displayed is selected, a wireless communication establishment process with the wireless communication device specified by the selected device identification information.

15. (previously presented) A method performed by a wireless communication device, the method comprising:

receiving a selection of a processing function specified by an operator;  
discriminating a type of device capable of executing the processing function selected by the operator;  
when receiving beacons transmitted by devices on networks, determining whether device identification information corresponding to the type discriminated is included in the received beacons; and

selectably displaying information associated with a device that transmitted a beacon, in accordance with a result of the determining, including the device identification information corresponding to the type discriminated, and not to display information associated with a device that transmitted a beacon not including the device identification information corresponding to the type discriminated.

16. (previously presented) The device according to claim 2, wherein said data processing function includes at least one of a data printing function and a data saving function.